

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PDPGL020J0

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Polygala glochidiata*

Note: The epithet is generally spelled “*glochidiata*” in the literature but the author’s original spelling was “*glochidata*.”

COMMON NAME: Spiny Milkwort

SYNONYMS:

FAMILY: Polygalaceae

AUTHOR, PLACE OF PUBLICATION: Kunth, Karl (Carl) Sigismund. Nova Genera et Species Plantarum (quarto ed.) 5: 400-401. 1821[1823].

TYPE LOCALITY: Venezuela: Prope Esmeralda (Orinoco).

TYPE SPECIMEN: Museum National d’Histoire Naturelle (P): 307492 (holotype). F.W.H.A.v. Humboldt #1153. No date.

TAXONOMIC UNIQUENESS: *Polygala* is a large genus with some 500 species of herbs, shrubs and trees worldwide in temperate and tropical regions. NatureServe lists 55 species in the United States with an additional 23 varieties. Arizona has 13 species and one other variety. *P. glochidiata* is one of three species that occur only in the State.

DESCRIPTION: Very slender annual, 1.3 – 3.5 dm. high. Simple or sparsely branched above, glabrous or sparsely papillose-glandular, often essentially naked at flowering time; lowest leaves in 3-6 remote whorls of 2-5, elliptic, 1.5 – 4 mm. long, 0.3 – 0.9 mm. wide, acute, thickish; lower, middle and upper leaves scattered, scale-like, subulate or lance-subulate, 1-2 mm. long, 0.2-0.6 mm. wide, acuminate, sessile by a broad base; bracts lanceolate, ciliolate, deciduous, 0.8 mm. long; pedicels 1-1.3 mm. long; flowers purplish-pink; sepals oval to lance-elliptic, rounded or obtuse, glabrous, 1.2-1.8 mm. long; wings oval, 3 mm. long, 1.8-2 mm. wide, rounded, short-clawed, 3-nerved; keel 2.8 mm. long, the crest on each side of a lamella and 2 deeply 2-3 fid lobes; capsule suborbicular-oval, 1.5-2 mm. long, 1.5 mm. wide; seed shortly apiculate at base, uncinat-pillose, 0.9-1 mm. long; aril obsolete. Blake 1924.

AIDS TO IDENTIFICATION: The following criteria can be used to distinguish *P. glochidiata* from the other species of *Polygala* in Arizona (Kearney and Peebles 1960):

Keel petal crested or beaked,

Crest of the keel conspicuous, fimbriate, racemes terminal, several- to many-flowered,

Plants annual, stems not rush-like, freely branched above the base, very slender, rarely more than 30 cm. long, flowers in loose racemes, not more than 2.5 mm., rose purple to (rarely) nearly white.....*Polygala glochidiata*

ILLUSTRATIONS:

Photos, Herbarium Mounts: <http://eol.org/pages/581720/media>.

TOTAL RANGE: Lower California (Baja) and northern Mexico to Guatemala, Cuba, also in South America. Collections in very southern Arizona likely represent the specie's northern limit.

RANGE WITHIN ARIZONA: Known from about a half dozen collection sites in very southern Arizona (within about 10 miles of the Mexico border) in both Cochise and Santa Cruz Counties. The most eastward collection was from the Mule Mountains, and westward from the Atascosa Mountains locality. There was also a collection made from the "south slopes of the Santa Rita Mountains" that could not be accurately mapped, but is still within this general distribution range.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Short, slender annual forb.

PHENOLOGY: Collections with flowers have been made in Arizona from mid-August to early November, which corresponds with the flowering dates reported in the literature.

BIOLOGY:

HABITAT: Upper Sonoran and mid-elevation grasslands; also growing among rocks, in rocky washes and found in seep areas and near an ephemeral spring.

ELEVATION: 3800 – 5500 feet (1160-1675m), based on Arizona collections.

EXPOSURE: Not specified.

SUBSTRATE: Not specified. One collection noted volcanic soils.

PLANT COMMUNITY: Grasslands and oak-grasslands indicated. Associated species mentioned in collection reports include: *Erythrina* and *Aralia*, *Quercus emoryi*, *Q. oblongifolia*, *Arctostaphylos pungens*, *Rhus choriophylla*, *Mimosa dysocarpa*, *Agave schottii* and *Q. toumeyii*.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. Although the plant has been collected in Arizona since the 1930s, there are no repeat collections from the same

site to provide any indication of trend. There are only five known collections sites. One of the collection records note the plant was rare; another indicated there were only eight plants observed. NatureServe considers the species to be critically imperiled in the State. Given that any Arizona occurrences are only delimiting the northern-most extension of this species from its wider central and south America distribution, this status is not surprising.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.
STATE STATUS: None.
OTHER STATUS: None.

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: None known.

SUGGESTED PROJECTS: Given the spotty distribution associated with several of the southern Sky Island mountains along the Arizona-Mexico border, it is probable that the species may still be found in other localities. Additional surveys can be undertaken to determine this.

LAND MANAGEMENT/OWNERSHIP: The majority of collections are from USDA National Forest lands (Coronado NF); two sites are from private land holdings.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Blake, Sidney Fay. 1924. Polygalales. Flora of North America. Vol 25, Part 5. P. 360. New York Botanical Garden.
- Kearney, Thomas H. and Robert H. Peebles. 1960. Arizona Flora, 2nd edition with Supplement. University of California Press, Berkeley. 1085 p.
- JStor| Global Plants, accessed 1/07/2015, <http://plants.jstor.org/stable/10.5555/al.ap.specimen.p00307492>.
- NatureServe, Online Encyclopedia of Life, accessed 1/07/2015, <http://explorer.natureserve.org/servlet/NatureServe?searchSciOrCommonName=Polygala&x=8&y=6>.
- Tropicos, accessed 01/07/2015, <http://www.tropicos.org/Name/25900254>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

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